Claims

1.   A method for enhancing storage capability for a display controller, comprising:

receiving video display data having a color format associated with a first sub-sampling scheme;

adjusting a size associated with the video display data;

compressing the video display data through a second sub-sampling scheme; and

storing the compressed data having the color format.

2.   The method of claim 1, wherein the method operation of adjusting a size associated with the video display data includes,

adjusting one of a cropping factor and a scaling factor associated with the video display data.

3.   The method of claim 1, further comprising:

converting the compressed data to a different color format; and

storing the different color format.

4.   The method of claim 1, further comprising:

accessing the stored compressed data; and

converting a frame of the stored compressed data through a lossy compression scheme.

5.   The method of claim 1, wherein the color format is selected from the group consisting of YUV color format, YCbCr color format and YIQ color format.

6.   The method of claim 1, wherein the color format is a YUV color format.

7.   The method of claim 6, wherein the first sub-sampling scheme is a 4:2:2 sub-sampling scheme and the second sub-sampling scheme is one of a 4:1:1 sub-sampling scheme and a 4:2:0 sub-sampling scheme.

8.   The method of claim 4, wherein the lossy compression scheme is a Joint Photographic Expert Group (JPEG) compression scheme.

9.   A computer readable medium having program instructions for enhancing storage capability for a display controller, comprising:

program instructions for receiving video display data having a color format associated with a first sub-sampling scheme;

program instructions for adjusting a size associated with the video display data;

program instructions for compressing the video display data through a second sub-sampling scheme; and

program instructions for storing the compressed data having the color format.

10.   The computer readable medium of claim 9, wherein the program instructions for adjusting a size associated with the video display data includes,

program instructions for adjusting one of a cropping factor and a scaling factor associated with the video display data.

11.   The computer readable medium of claim 9, further comprising:

program instructions for converting the compressed data to a different color format; and

program instructions for storing the different color format.

12.   The computer readable medium of claim 9, further comprising:

program instructions for accessing the stored compressed data; and

program instructions for converting a frame of the stored compressed data through a lossy compression scheme.

13.   A display controller, comprising:

a resizer block configured to receive digital video data defined through a YUV color format, the resizer block capable of scaling and cropping the digital video data;

a conversion module configured to compress the digital video data defined through the YUV color format;

a memory region configured to store the compressed digital video data; and

a color space conversion block configured to convert the compressed digital video data from the YUV color format to an RGB color format for display.

14.   The display controller of claim 13, further comprising:

a Joint Photographic Expert Group (JPEG) block in communication with the resizer block, the JPEG block configured to encode one of the digital video data and the compressed digital video data.

15.   The display controller of claim 13, wherein the digital video data is received in a 4:2:2 YUV format and the compressed digital video data is one of a 4:1:1 YUV format and a 4:2:0 YUV format.

16.   The display controller of claim 13, wherein the conversion module sub-samples the digital video data in order to compress the digital video data.

17.   The display controller of claim 13, wherein the color space conversion block is further configured to independently apply a scale factor and an offset factor prior to applying a transform matrix to the compressed digital video data.

18.   The display controller of claim 13, wherein the color space conversion block is further configured to manipulate a color balance associated with the RGB color format through manipulation of an offset factor applied after the application of a transform matrix to the compressed digital video data.

19.   A digital video device, comprising:

a central processing unit (CPU);

a display controller, the display controller including,

    a resizer block configured to receive digital video data defined through a YUV color format, the resizer block capable of scaling and cropping the digital video data;

    a conversion module configured to compress the digital video data defined through the YUV color format; and

    a memory region configured to store the compressed digital video data;

a display panel configured to display the stored digital video data; and

a bus over which the CPU, the display controller and the display panel communicate.

20. The device of claim 19, wherein the device is a digital video device selected from the group consisting of a cellular phone, a camcorder, and a personal digital assistant (PDA).

21. The device of claim 19, wherein the display controller includes,

a color space conversion block configured to convert the compressed digital video data from the YUV color format to an RGB color format for display.

22. The device of claim 21, wherein the display controller is a liquid crystal display (LCD) controller and the display panel is a LCD panel.

23. The device of claim 19, wherein the digital video data is received from one of a digital camera, a digital video decoder, and a Motion Picture Expert Group (MPEG) decoder.

24. An integrated circuit, comprising:

circuitry for receiving previously compressed digital video data;

circuitry for sub-sampling the previously compressed digital video data; and

circuitry for storing the sub-sampled data.

25. The integrated circuit of claim 24, further comprising:

circuitry for scaling and cropping a size associated with the digital video data.

26. The integrated circuit of claim 24, wherein the digital video data is YUV data associated with a 4:2:2 compression scheme and the sub-sampled data is associated with one of a 4:1:1 compression scheme and a 4:2:0 compression scheme.

27. The integrated circuit of claim 24, further comprising:

circuitry for converting the sub-sampled data to a RGB color format.

28. The integrated circuit of claim 24, wherein the integrated circuit is included within a display controller.